ELSEVIER

Volume 304, Numbers 1–2, 30 July 1997

thin solid films

Contents

Invited Review

High aspect ratio contacts: A review of the current tungsten plug process
P.J. Ireland 1

Letter

Properties and mechanism study of Ag doped SnO_2 thin films as H_2S sensors
C.H. Liu, L. Zhang and Y.-J. He 13

Synthesis and Characterization

Comparison of the properties of iodine-doped poly(*N*-vinylcarbazole) (PVK) thin films obtained by evaporation of pure powder followed by iodine post-deposition doping and iodine pre-doped powder
S. Touihri, G. Safoula, J.C. Bernède, R. Leny and K. Alimi 16

A simple in-situ optical film thickness monitor for infrared coatings
V.K. Arora and K.N. Chopra 24

Growth of CdMnS films by pulsed laser evaporation
D.-S. Chuu, Y.-C. Chang and C.-Y. Hsieh 28

Two-component phthalocyanine films: impedance study
G.L. Pakhomov, C. Müller, L.G. Pakhomov, D.E. Pozdnyaev and J.M. Ribó 36

Iteratively derived optical constants of MoO_3 polycrystalline thin films prepared by CVD
A. Abdellaoui, G. Lévêque, A. Donnadieu, A. Bath and B. Bouchikhi 39

PEELS and EXELFS characterization of diamond films grown by the HF-CVD technique on non-scratched Si substrates
A. Duarte-Moller, O. Contreras, G.A. Hirata, M. Avalos-Borja, D.H. Galván, L. Morales de la Garza and L. Cota-Araiza . . 45

Comparison of polycarbazole obtained by oxidation of carbazole either in solution or in thin film form
H. Taoudi, J.C. Bernede, A. Bonnet, M. Morsli and A. Godoy 48

Studies on chemically deposited cadmium sulphoselenide (CdSSe) films
R.S. Mane and C.D. Lokhande 56

Effect of microstructure on the wear behaviour of Fe–Co thin films
P. Pain, M.-F. Denanot and J.-F. Dinhut 61

Electrochemical and optical characteristics of conducting poly(*o*-toluidine) films
M.K. Ram, M. Joshi, R. Mehrotra, S.K. Dhawan and S. Chandra 65

Nanoindentation of amorphous aluminum oxide films. III. The influence of the substrate on the elastic properties
N.G. Chechenin, J. Bøttiger and J.P. Krog 70

A 'hydrostatic core' model of elastic deformations in an indented film/substrate system
N.G. Chechenin 78

The characterization of undoped SnO_x thin film grown by reactive ion-assisted deposition
W.K. Choi, J.S. Cho, S.K. Song, H.-J. Jung, S.K. Koh, K.H. Yoon, C.M. Lee, M.C. Sung and K. Jeong 85

Initial growth phase of diamond thin films observed by thermal emission spectrometry
S. Barrat, P. Pigeat, I. Dieguez, E. Bauer-Grosse and B. Weber 98

Metal–organic vapor deposition of YSZ electrolyte layers for solid oxide fuel cell applications
K.-W. Chour, J. Chen and R. Xu 106

Elsevier Science S.A.

Chemical composition and crystalline structure of SnO_2 thin films used as gas sensors
P. Serrini, V. Briois, M.C. Horrillo, A. Traverse and L. Manes 113

ITO surface ball formation induced by atomic hydrogen in PECVD and HW-CVD tools
J.-H. Lan and J. Kanicki 123

Laser-ablation Fourier-transform mass spectrometry of films based on amorphous hydrogenated carbon
P.B. Lukins, P.F. Greenwood and G.D. Willett 130

Axial distribution of emission and rate of deposition of diamond-like film in r.f. discharges in CH_4
Z.Lj. Petrović, B. Bošković, A. Jelenak and B. Tomčik 136

Synthesis and characterization of organometallic precursors for the preparation of Sn/chalcogenide heterostructures
J.J. Schneider, J. Hagen, O. Heinemann, J. Bruckmann and C. Krüger 144

Structural and optical properties of amorphous hydrogenated fluorinated carbon films produced by PECVD
S.F. Durrant, S.G.C. Castro, L.E. Bolívar-Marinez, D.S. Galvão and M.A. Bica de Moraes 149

Thin solid film sample preparation by a small-angle cleavage for transmission electron microscopy
S. Suder, C.A. Faunce and S.E. Donnelly 157

X-ray photon and thermal effects on trimethylsilane covered Si(100) surfaces
P.W. Wang, J. Sulak, S. Bater, L.P. Zhang and J.H. Craig Jr. 160

Determination of the orientation of CuPc film by Raman spectroscopy
B.A. Kolesov, T.V. Basova and I.K. Igumenov. 166

Texture development of evaporated nickel films on molybdenum substrates
Z. Shi, G.R.G. Craib, M.A. Player and C.C. Tang 170

Thin pyrite (FeS_2) films by molecular beam deposition
M. Bronold, S. Kubala, C. Pettenkofer and W. Jaegermann 178

Shielded arc ion plating and structural characterization of amorphous carbon nitride thin films
Y. Taki, T. Kitagawa and O. Takai 183

Study of the influence of oxygen on the composition of thin films obtained by r.f. sputtering from a $Ca_5(PO_4)_3OH$ target
K. Van Dijk, J. Verhoeven, C.H.M. Marée, F.H.P.M. Habraken and J.A. Jansen. 191

Transmission electron microscopic studies of ternary FeNi–silicide layers prepared by metal vapour vacuum arc ion implantation
X.N. Li, S. Jin, C. Dong, Z. Zhang, Z.X. Gong and T.C. Ma 196

Regenerative switching phenomenon of a graded $Al_xGa_{1-x}As/InGaAs/GaAs$ heterostructure
J.-H. Tsai, H.-J. Shih, S.-Y. Cheng and W.-C. Liu 201

Crystallisation of thin anatase coatings on muscovite
V.D. Hildenbrand, S. Doyle, H. Fuess, G. Pfaff and P. Reynders 204

Growth phenomena of $Bi_2Sr_2CaCu_2O_{8+\delta}$ thin films deposited on (110) oriented $SrTiO_3$ substrates
E. Brecht, G. Linker, T. Kröner, R. Schneider, J. Geerk, O. Meyer and C. Træholt 212

Chemical vapor deposition of Al_2O_3 films using highly volatile single sources
W. Koh, S.-J. Ku and Y. Kim 222

Effects of wavelength, deposition rate and thickness on laser ablation deposited YSZ films on Si(100)
R. Aguiar, V. Trtik, F. Sánchez, C. Ferrater and M. Varela 225

An X-ray diffraction (XRD) study of vapor deposited gold thin films on aluminum nitride (AlN) substrates
I. Dutta, C.B. Munns and G. Dutta 229

Deposition of $LiTaO_3$ thin films by pyrosol process
V. Bornand, Ph. Papet and E. Philippot 239

Plasma etching and patterning of CVD diamond at $< 100°C$ for microelectronics applications
R. Ramesham, W. Welch, W.C. Neely, M.F. Rose and R.F. Askew 245

Preparation and characterization of MgF_2 thin film by a trifluoroacetic acid method
S. Fujihara, M. Tada and T. Kimura 252

Nanostructure and local chemical composition of $AlN–Si_3N_4$ layers grown by LPCVD
A. Mazel, P. Marti, F. Henry, B. Armas, R. Bonnet and M. Loubradou 256

Surfaces, Interfaces and Colloidal Behaviour

A surface EXAFS study of thin nickel deposits on (110) TiO_2 surfaces
S. Bourgeois, P. Le Seigneur, M. Perdereau, D. Chandesris, P. Le Fèvre and H. Magnan 267

Study of a polycrystalline Ni/Cr alloy V. Hydrogen-atom exposure
W.S. Epling, C.K. Mount and G.B. Hoflund 273

Interdiffusion in CoN/CN soft X-ray multilayer mirrors
H.L. Bai, E.Y. Jiang and C.D. Wang 278

An XRD study of highly textured HfN films
B.H. Hwang and S.Y. Chiou 286

Metallurgical, Protective and Hard Layers

Characterization of electron cyclotron resonance source plasma for etching and deposition
S.K. Angra, P. Kumar, P.C. Banerjie and R.P. Bajpai 294

Electronics, Optics and Opto-electronics

A real-time poling approach for preparing second-order nonlinear optical polymer thin films
J.-H. Jou, H.-S. Wu, J.-F. Chiou, P.-K. Yang and J.Y. Huang 299

Optical performance and durability of solar reflectors protected by an alumina coating
C.E. Kennedy, R.V. Smilgys, D.A. Kirkpatrick and J.S. Ross 303

Optical and electrochemical characteristics of sol–gel deposited tungsten oxide films: a comparison
N. Özer 310

Electrode limited currents in amorphous Ge–S–Ga thin films
P. Petkov, Z.G. Ivanova and V. Vassilev 315

Magnetics and Magneto-optics

Magnetoresistance of granular ferromagnet–insulator films
A. Gerber, A. Milner, B. Groisman, M. Karpovsky and A. Sulpice 319

Langmuir-Blodgett, Biological and Related Films

Preparation and structure of lanthanum stearate films
M. Popescu, T. Gutberlet, M. Kastowsky, P.-J. Koch and H. Bradaczek 323

Molecular structure of dipalmitoylphosphatidylcholine Langmuir-Blodgett monolayers studied by atomic force microscopy
X. Zhai and J.M. Kleijn 327

Thin Film Devices, Sensors and Actuators

Durable giant magnetoresistive sensors using Co/Cu superlattices
M. Suzuki, T. Ohwaki and Y. Taga 333

CO sensing properties of SnO_2 thin films prepared by the sol–gel process
R. Rella, A. Serra, P. Siciliano, L. Vasanelli, G. De and A. Licciulli 339

Condensed Matter Film Behaviour

Monte-Carlo simulation of mixed multilayer adsorption
K. Grabowski, A. Patrykiejew and S. Sokołowski 344

Quantum size effect does not yield photoluminescence in nanometer silicon crystals
S.-K. Ma and J.T. Lue 353

Changes in photoluminescence behaviour and structure of porous silicon related to preparation conditions and laser irradiation
H. Elhouichet, B. Bessaïs, O. Ben younes, H. Ezzaouia and M. Oueslati 358

Lateral self-diffusion of selenium in $CuInSe_2$ thin films
A.P. Kumar and K.V. Reddy 365

Three-dimensional morphological instabilities in chemical vapor deposition films
C.-C. Hwang, H.-Y. Yang, J.-Y. Hsieh and Y.-M. Dai 371

Tantalum plasma etching with minimum effect on underlying nickel–iron thin film
R. Hsiao, D. Miller, T. Lin and N. Robertson 381

Growth, structural characteristics and magnetoresistance in La–Ca–Mn–O thin films prepared by dc magnetron sputtering
K. Li, Z. Qi, X. Li, J. Zhu and Y. Zhang 386

Author Index of Volume 304 392
Subject Index of Volume 304 394

The table of contents of *Thin Solid Films* is included in ESTOC—Elsevier Science Tables of Contents service—which can be accessed on the World Wide Web at the following URL addresses:
http://www.elsevier.nl/locate/estoc or http://www.elsevier.com/locate/estoc

The publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. A leaflet describing our requirements is available from the publisher upon request.